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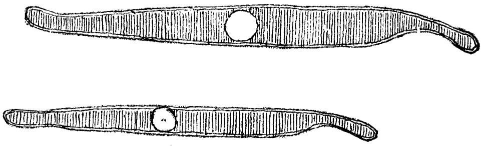
absence of the median line, as well as the circular definite pseudonodule, which distinguish the *S. pulchella* of Kützing from all the other species of the genus, he classifies as a new variety. One end of the valve will be seen to have an extraordinary and partly constricted bent apex, while the other appears complete in its formation. The description and figure of *S. pulchella* will be found in the works of the following authorities: Van Heurck, Ralfs in Pritchard's Infus., Wm. Sm. Syn. and Kützing.



E. A. SCHULTZE.

The Journal of Mycology. Volume v, No. 1 of this publication appears as the quarterly bulletin of the section of vegetable pathology, U. S. Department of Agriculture, March, 1889, prepared under the direction of the Secretary of Agriculture by B. T. Galloway, chief of the section. It is a pamphlet of 50 pages, and is embellished by 8 plates, illustrating papers by Professors Kellerman and Swingle, Miss Knowles and Mr. Ellis. Other botanical contributions are by Professor Halsted and Mr. F. W. Anderson.

Reviews of Foreign Literature.

A Monograph of the British Uredineæ and Ustilagineæ. (8 vo., pp. 347, London, 1889).

Under the above title Mr. C. B. Plowright, F.L.S., has prepared a book of three hundred and fifty pages containing much valuable matter concerning rusts and smuts—two groups of fungi specially destructive to cultivated crops. Full descriptions of the British species of rusts and smuts are given, and an account of their life history, as far as this important point has been determined. There are chapters upon mycelium, spermagonia, æcidiospores, uredospores, teleutospores, etc. Following these are others, treating of heterœcism, spore-culture, artificial infection of plants, and two indices, one of the species and another of the host plants. The fact that members of the Uredineæ may have more than one form, living, possibly, in one form upon one host and in another upon another host, has been established for forty-seven species. The list of these determined heterœcious species begins with the wheat mildew or rust, and the cluster-cup fungus of the barberry, as demonstrated by Dr. DeBary in 1864, and closes with no less than five species demonstrated by Mr. Plowright during 1888. This is a fruitful issue of the author's untiring labor to reveal the vital association of previously isolated forms of rusts, and his methods as fully described, will be of special interest to students of the diseases of cultivated plants. The work before us is well illustrated in the text, and has seven additional page plates, chiefly upon spore germination. It gives sufficient information of a general nature to serve as an introduction to the groups treated, and while the species described are British, the volume is a valuable contribution to the literature upon rusts and smuts for all countries. The American student of these occult subjects will find in it much to aid him in his researches, besides the stimulus which always comes from the study of a new book by one who is a hard worker and full of this subject.

BYRON D. HALSTED.

Monographia Cladoniarum Universalis, Pars. i.—Edv. Wainio. (Acta Soc. Fauna et Flora Fennica, iv. 8vo, pp. 1–509. Helingsfors, 1887).

This a systematic monograph of the entire Lichen genus *Cladonia*, Hill. The synonomy and distribution are completely worked out, and there is an exhaustive citation of authors. *C. flabelliformis* (Flœrk.), Wainio, is attributed to California; *C. hypocritica* is a new species from Cape Horn, *C. flavescens* from Cape Horn, *C. hypoxanthoides*, *C. substellata*, *C. connexa*, *C. albofuscescens*, *C. mutabilis*, *C. polytypa*, *C. consimilis*, *C. Carassensis*, *C. erythrosperma*, *C. chondrotypa*, *C. rhodoleuca*, *C. sphacelata*, *C. pleurophylla*, are all new species from the Carassa Mountains, Brazil; *C. Mexicana* is also new. There are many changes in the ranking of forms, whether as species or varieties, some of which apply to American plants. There is a rigid adherence throughout the work to the maintenance of the oldest varietal or specific name and the citation of the author thereof in parenthesis, if changed in rank or genus; thus *C. Boryi*, Tuckerm. (1847) was originally *C. uncialis, var. reticulata*, Russell (1839), and is cited by the present author *C. reticulata* (Russell), Wainio.

N. L. B.

On the Plants of Kohima and Muneypore.—Charles Baron Clarke. (Journ. Linn. Soc. Vol. xxv.; 44 plates; also reprinted, pp. 107).

Mr. Clarke publishes a list of plants, with critical notes and descriptions, and illustrates many new species collected by himself on a march from Gologhat, in Central Assam, to Cachar, in October and November, 1885. 1,050 species are enumerated. An account is given of former botanical exploration in the same region and contiguous territory.

Neue Beiträge zur Moosflora von Neu-Guinea.—Von Adelbert Geheeb. (Bibliotheca Botanica, Heft 13, 1889 mit 8 Tafeln).

This contribution to the flora of New Guinea cotains some very fine illustrations of the new species, from drawings by "Adelbert and Emmy Geheeb-Belart," but the descriptions of new species are mostly from the pen of Dr. C. Müller. Of the seventeen enumerated here twelve bear his names. The plates are on the same large scale as those of the Atlas of the Bryologia Javanica and quite as good. E. G. B.

Index to Recent American Botanical Literature.

Abies lasiocarpa and its Allies. Maxwell T. Masters. (Journ. Bot. xxvii. 129–138; 9 figures).

Dr. Masters concludes that the *Abies subalpina*, Engelm. (Amer. Nat. x. 554, 1876), the name also adopted by Professor Sargent in the 10th Census Forestry Report, is probably made up of two older species, viz.: *A. lasiocarpa* (Hook.), Nutt., and *A. bifolia*, Murray, Proc. Hort. Soc. London, iii. 318 (1863). He gives an interesting account of the history of these trees, together with descriptions based on specimens at Kew, noting also that if all the forms (including var. *fallax*, Engelm.), are reducible to one species, this must be called *A. lasiocarpa*, its earliest publication being as *Pinus lasiocarpa*, Hook. Fl. Bor.-Am ii. 163 (1840).